

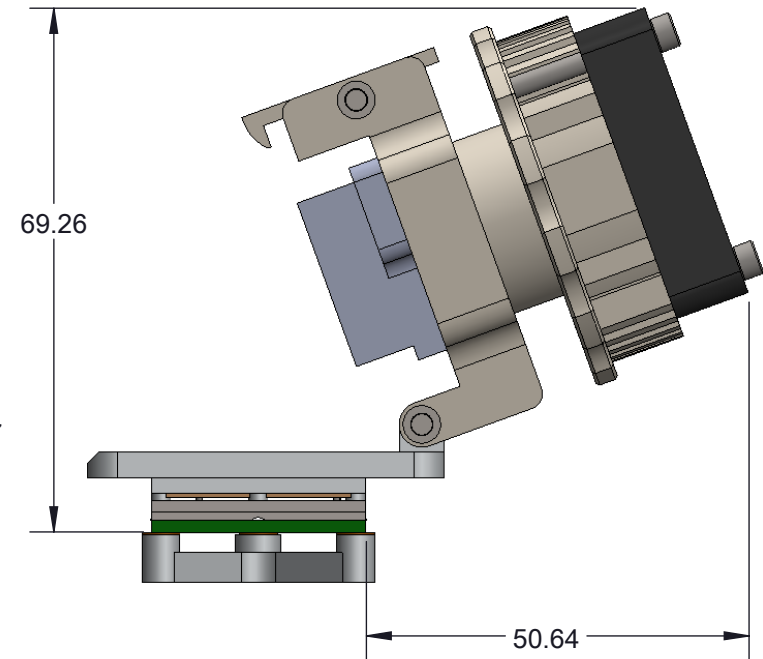
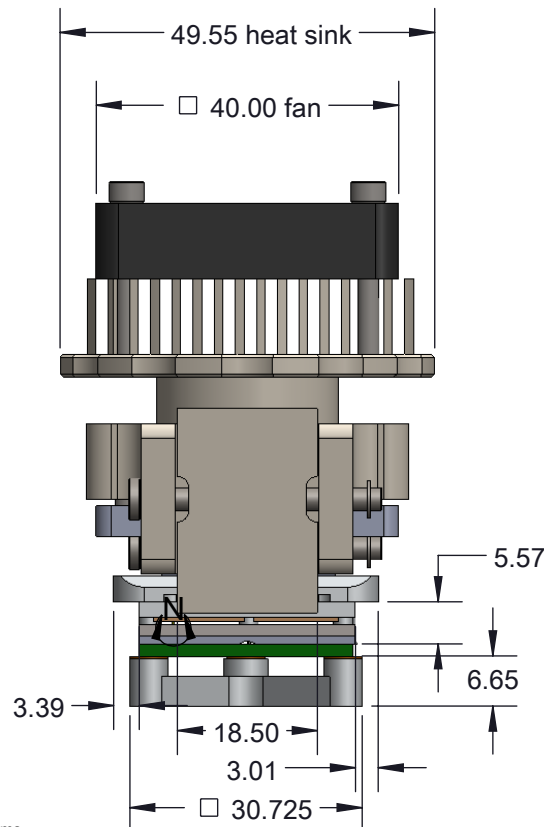
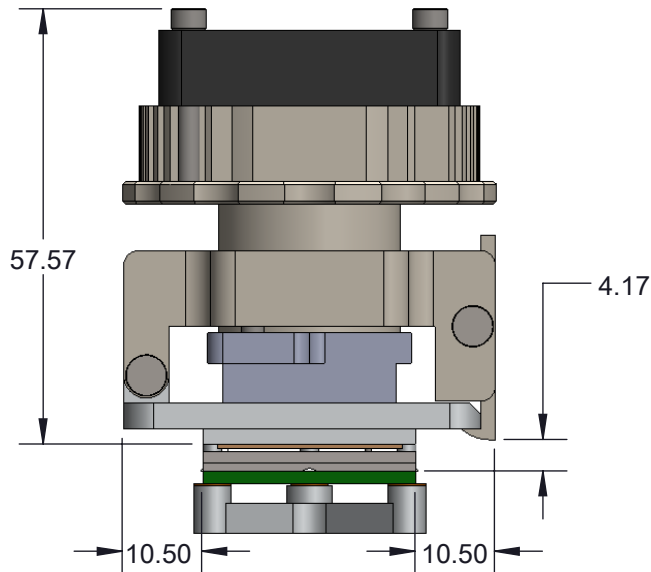
# SBT Clamshell Socket

## Features

- Wide temperature range (-55C to +180C).
- High current capability (up to 4A).
- Excellent signal integrity at high frequencies.
- Low and stable contact resistance for reliable production yield.
- Highly compliant to accommodate wide co-planarity variations.
- Automated probe manufacturing enables low cost and short lead time.

DETAIL N  
SCALE 16 : 1

Recommended torque is 8.5 - 10.75 in lb.



## Description: Socket Specification

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

### CBT-BGA-6032 Drawing



Ironwood Electronics, Inc.  
Tele: (800) 404-0204  
www.ironwoodelectronics.com

Material: Material <not specified>  
Finish: --  
Weight: 164.76

STATUS: Released

ENG: V. Panavala

FILE: CBT-BGA-6032

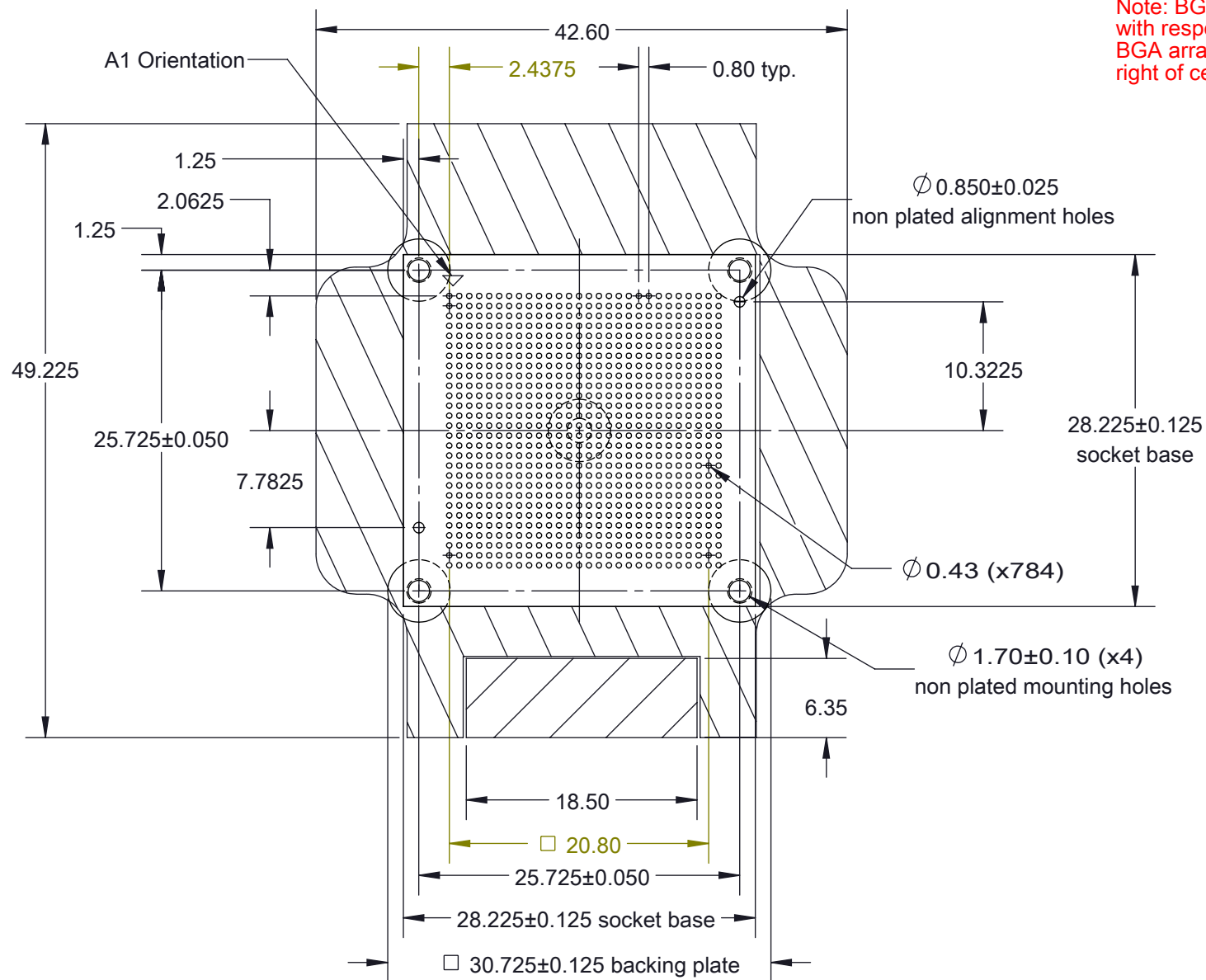
SHEET: 1 OF 5

DRAWN BY: V. Panavala

DATE: 4/24/13

REV. A

SCALE: 1:1



Note: BGA pattern is not symmetrical with respect to the mounting holes. BGA array is shifted 0.375mm to the right of center.

## Description: Recommended PCB Layout

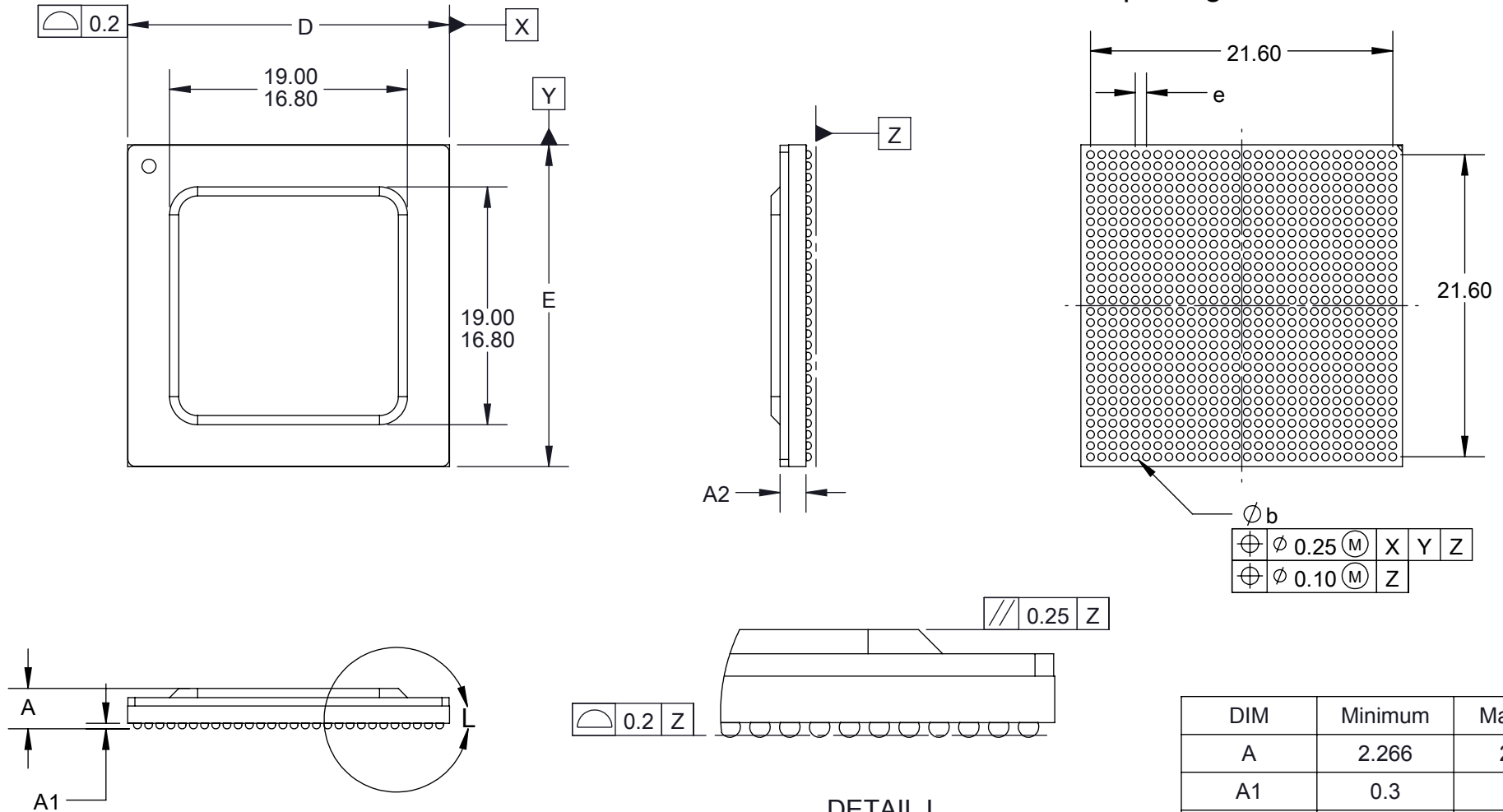
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Target PCB Recommendations  
Total thickness: 1.6mm min.  
Plating: Gold or Solder finish  
PCB Pad height: same or higher than solder mask

|                                                                                                                                                                                                     |                                                                    |                    |                       |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------|-----------------------|------------|
|  <b>CBT-BGA-6032 Drawing</b><br>Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | Material: Material <not specified><br>Finish: --<br>Weight: 164.76 | STATUS: Released   | SHEET: 2 OF 5         | REV. A     |
|                                                                                                                                                                                                     |                                                                    | ENG: V. Panavala   | DRAWN BY: V. Panavala | SCALE: 2:1 |
|                                                                                                                                                                                                     |                                                                    | FILE: CBT-BGA-6032 | DATE: 4/24/13         |            |
|                                                                                                                                                                                                     |                                                                    |                    |                       |            |

# Ironwood Electronics package code: BGA784C



|          |                 |   |   |   |
|----------|-----------------|---|---|---|
| $\oplus$ | $\phi$ 0.25 (M) | X | Y | Z |
| $\oplus$ | $\phi$ 0.10 (M) | Z |   |   |

DETAIL L  
SCALE 6 : 1

1. Dimensions are in millimeters.
2. Interpret dimensions and tolerances per ASME Y14.5M-1994.
3. Dimension b is measured at the maximum solder ball diameter, parallel to datum plane Z.
4. Datum Z (seating plane) is defined by the spherical crowns of the solder balls.
5. Parallelism measurement shall exclude any effect of mark on top surface of package.

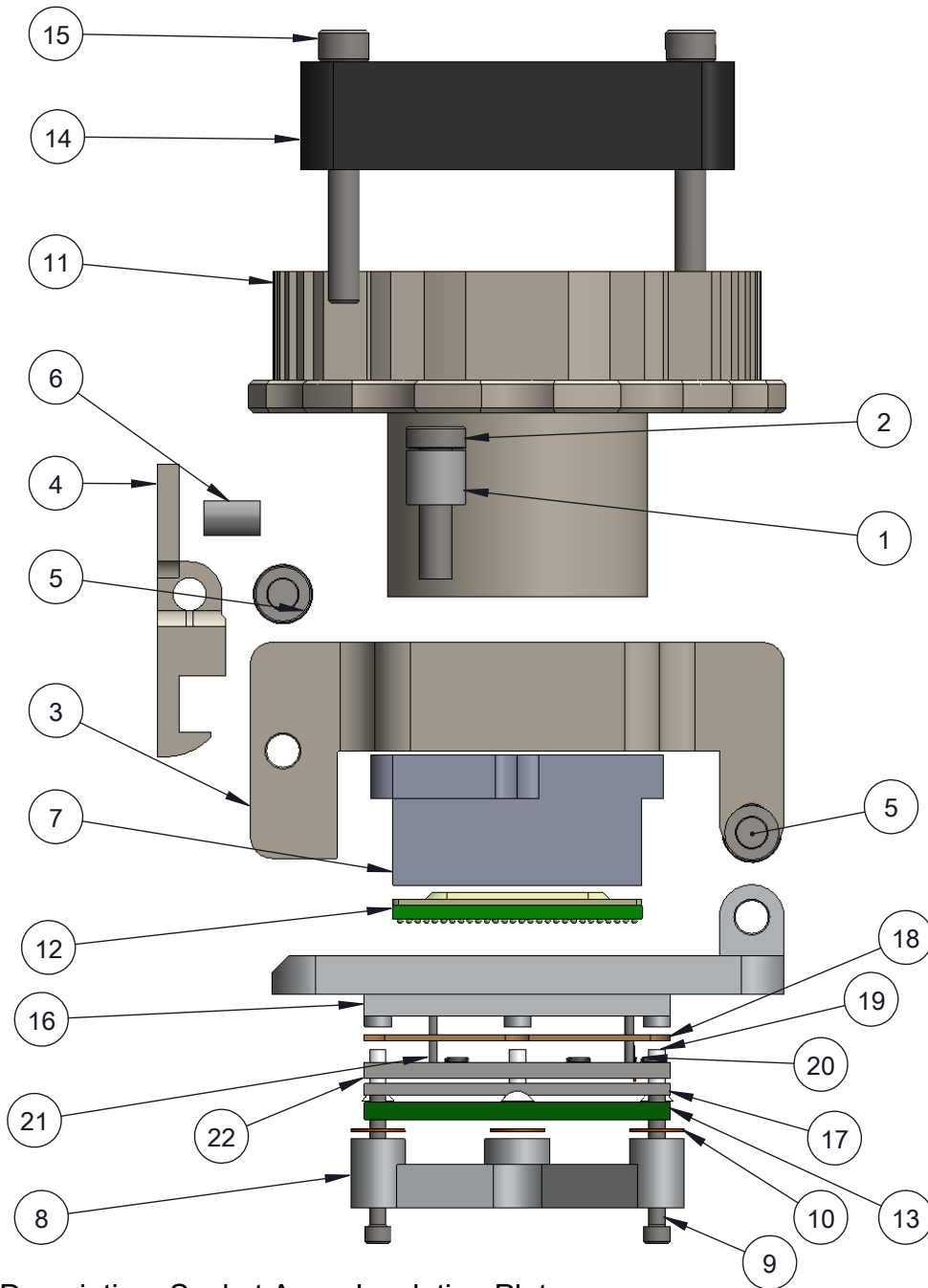
| DIM       | Minimum   | Maximum |
|-----------|-----------|---------|
| A         | 2.266     | 2.766   |
| A1        | 0.3       | 0.5     |
| b         | 0.4       | 0.60    |
| D         | 23.00 BSC |         |
| E         | 23.00 BSC |         |
| e         | 0.8 BSC   |         |
| ARRAY     | 28 X 28   |         |
| PIN COUNT |           | 784     |

## Description: Compatible BGA

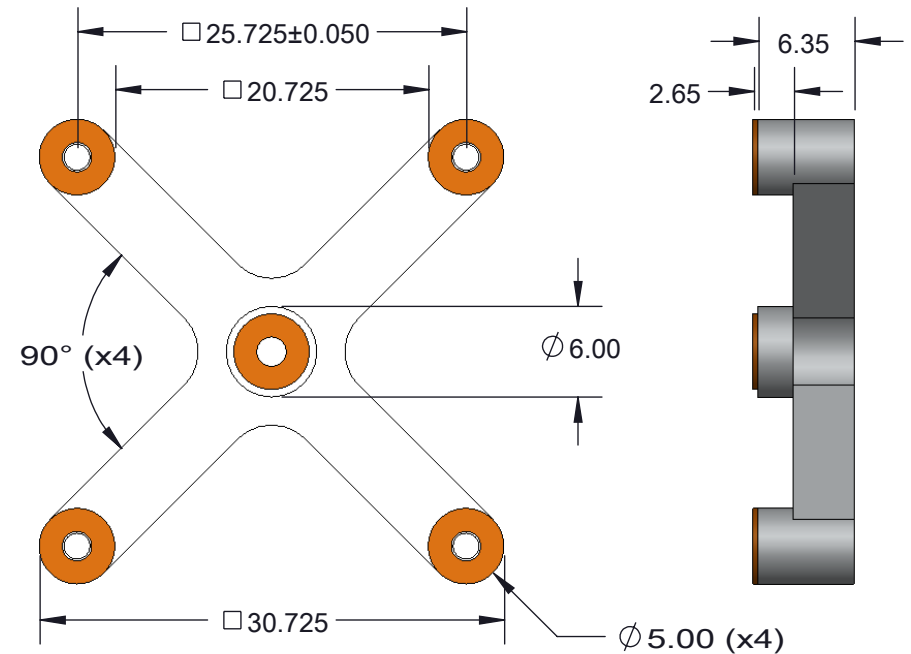
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|                                                                                                                                                                                                     |                                                                    |                    |                       |               |
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|  <b>CBT-BGA-6032 Drawing</b><br>Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | Material: Material <not specified><br>Finish: --<br>Weight: 164.76 | STATUS: Released   | SHEET: 3 OF 5         | REV. A        |
|                                                                                                                                                                                                     |                                                                    | ENG: V. Panavala   | DRAWN BY: V. Panavala | SCALE: 2.25:1 |
|                                                                                                                                                                                                     |                                                                    | FILE: CBT-BGA-6032 | DATE: 4/24/13         |               |
|                                                                                                                                                                                                     |                                                                    |                    |                       |               |



| ITEM NO. | DESCRIPTION                                                                            | Material                    |
|----------|----------------------------------------------------------------------------------------|-----------------------------|
| 1        | Spring Clamshell lid assembly                                                          | Steel Music Wire            |
| 2        | Screw, M3 x 12mm, Low Head Cap, SS                                                     | 18-8 Stainless Steel        |
| 3        | Socket Lid                                                                             | 7075-T6 Aluminum Alloy      |
| 4        | Latch                                                                                  | 7075-T6 Aluminum Alloy      |
| 5        | Hinge Pin and Snap Ring, 3mm OD, 30mm long, 1045 Stl, Blk Oxide                        | AISI 1045 Steel, cold drawn |
| 6        | Precision Compression Spring, Zinc-Plated Music Wire, 1/2" Length, .12" OD, .016" Wire | Zinc Plated Music Wire      |
| 7        | CBT 23mm Compression plate Ni Plated                                                   | 7075-T6 Aluminum Alloy      |
| 8        | Backing PLate                                                                          | 7075-T6 Aluminum Alloy      |
| 9        | #0-80 x 0.5, SH Cap Screw                                                              | Alloy Steel                 |
| 10       | Insulating washer, 5mm OD.                                                             | Kapton Polyimide/Cirlex     |
| 11       | Heat sink Compression Screw M24 threads                                                | 7075-T6 Aluminum Alloy      |
| 12       | Customer's BGA IC                                                                      | FR4 Standard                |
| 13       | Customer's target PCB for 23x23mm 28x28 0.8mm pitch BGA684                             | FR4 Standard                |
| 14       | Fan 40X10MM 12VDC 1.6W 9.9CFM                                                          | Material <not specified>    |
| 15       | Screw, #4-40 X 7/8", Cap                                                               | Alloy Steel                 |
| 16       | CBT Socket Base Clamshell 23mm IC W/posts 0.375mm offset                               | 7075-T6 Aluminum Alloy      |
| 17       | Bottom Pogo pin Guide 23x23mm 0.8mm 28x28 array                                        | PEEK Ceramic filled         |
| 18       | Floating Guide 23x23mm 0.8mm 28x28 array                                               | Semitron MDS 100            |
| 19       | #0-80 X .188" LG FL HD, Slotted, Polypropylene                                         | PP Homopolymer              |
| 20       | Floating Guide Spring                                                                  | Alloy Steel (SS)            |
| 21       | Dowel pin, 1/32" X 1/4", SS                                                            | Stainless Steel (18-8)      |
| 22       | Middle Pogo Guide 23x23mm 0.8mm 28x28 array                                            | PEEK Ceramic filled         |
| 23       | Pogo Pin, SBT-BGA 0.5mm-0.8mm                                                          |                             |



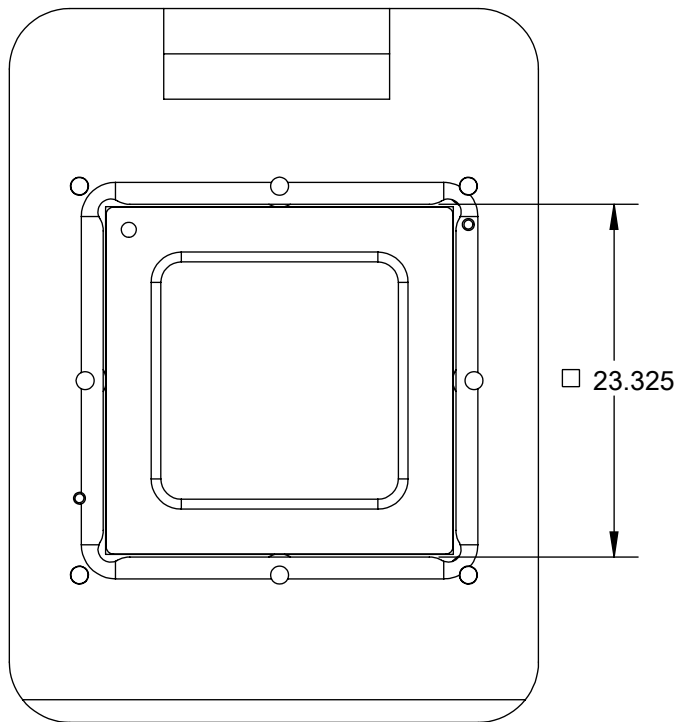
## Description: Socket Assy, Insulation Plate

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

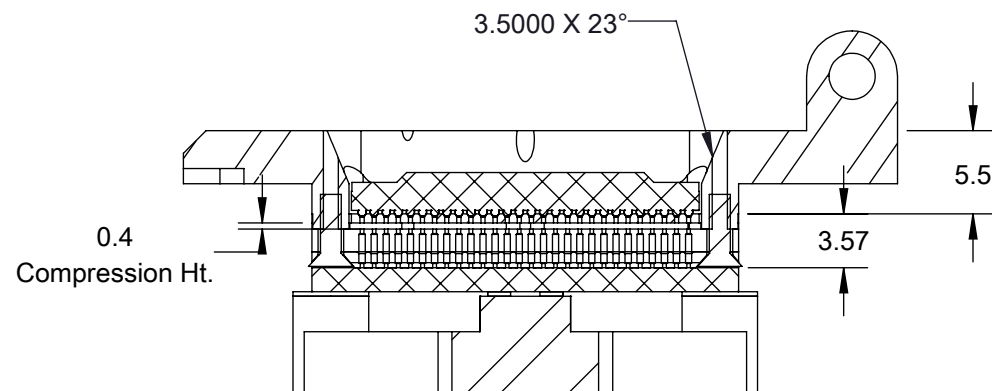
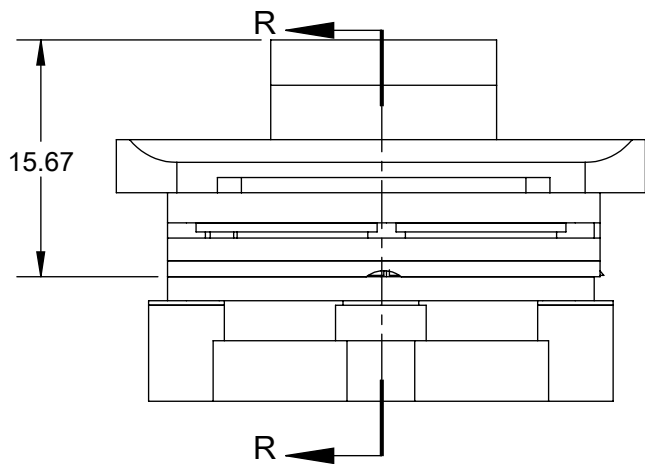
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## Insulation Plate Specification

|                                                                                                                                                                                                     |                                                                    |                    |                       |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------|-----------------------|------------|
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|                                                                                                                                                                                                     |                                                                    | ENG: V. Panavala   | DRAWN BY: V. Panavala | SCALE: 2:1 |
|                                                                                                                                                                                                     |                                                                    | FILE: CBT-BGA-6032 | DATE: 4/24/13         |            |
|                                                                                                                                                                                                     |                                                                    |                    |                       |            |



Recommended Force 23.5 Kgs



SECTION R-R

## Description: Socket Specification(2)

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

|                                                                                                                                                                                                        |                                                                    |                    |                       |            |
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|                                                                                                                                                                                                        |                                                                    | ENG: V. Panavala   | DRAWN BY: V. Panavala | SCALE: 2:1 |
|                                                                                                                                                                                                        |                                                                    | FILE: CBT-BGA-6032 | DATE: 4/24/13         |            |
|                                                                                                                                                                                                        |                                                                    |                    |                       |            |